

REMARKS

Claims 1, 10 – 13, 15, 16, 30 and 32 are pending. All of the claims have been rejected. It is requested that the examiner withdraw all of the rejections in view of the remarks which follow.

Claims 1, 13, 15, 16, 30 and 32 have been rejected under section 103 based on the combination of Fuji '948, applicants' figure 1 (admitted prior art) and EerNisse '130. Claims 10 – 12 were rejected in further view of Zdeblick. For reasons now presented, it is respectfully submitted that the rejections are in complete error and must be withdrawn.

The primary reference on which the Section 103 rejections are based is Fuji '948. The examiner relied upon the Fuji reference for "depositing a piezoelectric material" when this reference does not at all relate to piezoelectric materials. To support his position the examiner expressly equated film 103 of Fuji '948 with applicants' "piezoelectric material." In fact, the examiner's reference to Col. 4, lines 24-33, and lines 58-61 has somehow by-passed Col. 4, line 34 which expressly states the composition of film 103 as being $\text{Pb}_{0.9}\text{La}_{0.1}\text{Ti}_{0.975}\text{O}_3$. $\text{Pb}_{0.9}\text{La}_{0.1}\text{Ti}_{0.975}\text{O}_3$ is not a piezoelectric material and there is no basis for suggesting otherwise. In fact, the Fuji reference does not at all relate to piezoelectric materials. As stated at Col. 1, lines, the Fuji reference relates to various ferroelectric substances, e.g., lead titanite. As indicated at Col. 13, lines 4 – 6, numerous titanate compounds are "employees for the dielectric substance ..." No piezoelectric material is suggested by the Fuji reference.

Further, the examiner seems to equate applicants' invention with a mere recombination of process steps extracted from multiple unrelated references. As explained in paragraph one of the patent specification, applicants' invention relates "to isolation techniques for limiting the effects of lateral wave propagation ... which undesirably removes energy from thin film resonator devices. None of the art of record so much as acknowledges this undesirable effect. However, each of the rejected independent claims is expressly distinguished on this very same basis! The inventive method of claim 1 requires

"removing ... piezoelectric material ... to limit lateral propagation losses ..."

and the inventive method of claim 13 requires

“removing ... piezoelectric material ... to limit propagation of energy in lateral modes ...”

It must also be made of record that the examiner's reliance on the Eernisse patent (U.S. 5, 022,130) throughout the prosecution of this application is misplaced. The '130 patent is not at all concerned with acoustic resonators. Instead the '130 patent clearly relates to resonators of the type “which develop highly accurate timing signals ...” See Col. 1, lines 14 – 20. Further, the very passage which the examiner cites (col. 7, lines 20 – 53) refers to only quartz crystal resonators.

As specifically noted at Col. 7, lines 28-30 of the '130 patent, bulk of the crystal may be removed “by abrading or grinding the crystal in selected areas ...” The examiner cannot find any support in the '130 patent for “depositing piezoelectric material” or for “removing ... piezoelectric material ... [with/by] a selective etching process ...” as required by claims 1 and 13. Rather, quartz is a naturally occurring material and is not deposited as a crystal structure. And none of the references teach or suggest removal of quartz material by selective etching. Thus the examiner's efforts to reconstruct applicants' invention is inconsistent with the materials and processes disclosed among the multiple references. Accordingly it is improper to combine the references.

For all of these reasons, there is no valid combination of prior art which renders the claimed invention obvious. The rejections are only a hindsight and piecemeal reconstruction. Withdrawal of the rejections is therefore requested.

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Respectfully submitted,



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